

Claims

We claim:

1 1. A method for making a conductive path in a laminate
2 structure hole comprising the steps of:

3 providing a laminate with a top surface and a bottom
4 surface and having at least one hole;

5 providing a conductive element;

6 inserting the conductive element into the at least one
7 hole in the laminate; and

8 deforming the conductive element within the at least one
9 hole in the laminate to retain the conductive element within
10 the at least one hole.

1 2. The method of claim 1, wherein the deforming of the
2 conductive element further includes forming an electrode at
3 the top surface of the laminate.

1 3. The method of claim 1, wherein the at least one hole is
2 a through hole extending from the top surface to the lower
3 surface of the laminate.

1 4. The method of claim 1, wherein the conductive element is
2 a sphere.

3 5. The method of claim 4, wherein the sphere is solid or
4 hollow.

1 6. The method of claim 1, wherein the at least one hole is
2 a blind via.

1 7. The method of claim 1, wherein the conductive element
2 includes a conductive surface covering a base element.

1 8. The method of claim 7, wherein the conductive surface is
2 selected from the group consisting of copper, brass, gold,
3 and bronze.

1 9. The method of claim 7, wherein the base element is
2 selected from the group consisting of glass, rubber, and
3 plastic.

1 10. The method of claim 1, wherein the conductive element is
2 a cylinder.

1 11. The method of claim 10, wherein the cylinder is solid or
2 hollow.

1 12. The method of claim 1, wherein the conductive element is
2 selected from the group consisting of copper, brass, gold,
3 and bronze.

1 13. The method of claim 1, wherein the at least one hole is
2 a buried via.

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1 14. A method comprising:

2 embedding a conductive element into a laminate, wherein
3 the conductive element substantially maintains a shape while
4 the laminate deforms to accommodate the conductive element.

1 15. The method of claim 14, wherein the conductive element
2 includes a conductive surface covering a base element.

1 16. The method of claim 15, wherein the conductive surface
2 is selected from the group consisting of copper, brass, gold,
3 and bronze.

1 17. The method of claim 15, wherein the base element is
2 selected from the group consisting of glass, rubber, and
3 plastic.

1 18. The method of claim 15, wherein the conductive element
2 is selected from the group consisting of copper, brass, gold,
3 and bronze.

1 19. The method of claim 15, wherein the conductive element
2 is a sphere or a cylinder.

1 20. The method of claim 15, wherein the conductive element
2 is hollow.

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1 21. A method comprising:

2 providing an opening in a laminate; and

3 pressing a conductive element into the opening.

1 22. The method of claim 21, wherein the opening is a hole.

1 23. The method of claim 21, wherein the conductive element

2 is a sphere.

1 24. The method of claim 21, wherein the conductive element

2 is a cylinder.

1 25. A method comprising:
2 providing a plurality of laminates;
3 embedding at least one conductive element into each
4 laminate;
5 forming a contact pad on each end of each conductive
6 element;
7 bonding each laminate together to form a stack; and
8 wherein adjoining contact pads press together and form
9 an electrical connection.

26. The method of claim 25, further including a conductive adhesive applied between adjoining contact pads.

1 27. A structure comprising:

2 a conductive element embedded into a laminate.

1 28. The structure of claim 27, further including an opening

2 in the laminate that the conductive object is pressed into.

1 29. The structure of claim 28, wherein the opening is a hole

2 in the laminate.

1 30. The structure of claim 27, wherein the conductive

2 element is a sphere or a cylinder.

1 31. The structure of claim 27, wherein the conductive

2 element is selected from the group consisting of copper,

3 brass, and bronze.

1 32. The structure of claim 27, wherein the laminate is

2 selected from the group consisting of epoxy, cyanate-epoxy

3 blend, and glass reinforced carrier.